

FIG. 1

CONVENTIONAL ART

SET 1: $\begin{pmatrix} 1 \end{pmatrix}$

SET 2: $\begin{matrix} W_0 \\ W_1 \end{matrix} \begin{pmatrix} 1 & 1 \\ 1 & -1 \end{pmatrix}$

SET 4: $\begin{matrix} W_0 \\ W_1 \\ W_2 \\ W_3 \end{matrix} \left(\begin{pmatrix} 1 & 1 \\ 1 & -1 \end{pmatrix} \begin{pmatrix} 1 & 1 \\ 1 & -1 \end{pmatrix} \right)$

SET 8: $\begin{matrix} W_0 \\ W_1 \\ W_2 \\ W_3 \\ W_4 \\ W_5 \\ W_6 \\ W_7 \end{matrix} \left(\begin{pmatrix} 1 & 1 & 1 & 1 \\ 1 & -1 & 1 & -1 \\ 1 & 1 & -1 & -1 \\ 1 & -1 & -1 & 1 \end{pmatrix} \begin{pmatrix} 1 & 1 & 1 & 1 \\ 1 & -1 & 1 & -1 \\ 1 & 1 & -1 & -1 \\ 1 & -1 & -1 & 1 \end{pmatrix} \right)$

FIG. 2A
CONVENTIONAL ART

I/Q MEASURED POLAR VECTOR

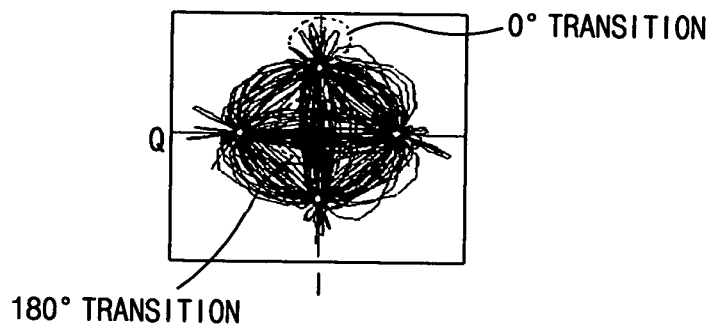


FIG. 2B
CONVENTIONAL ART

I/Q MEASURED POLAR VECTOR

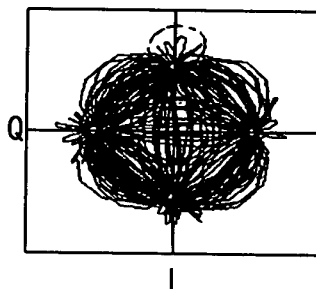


FIG. 2C
CONVENTIONAL ART

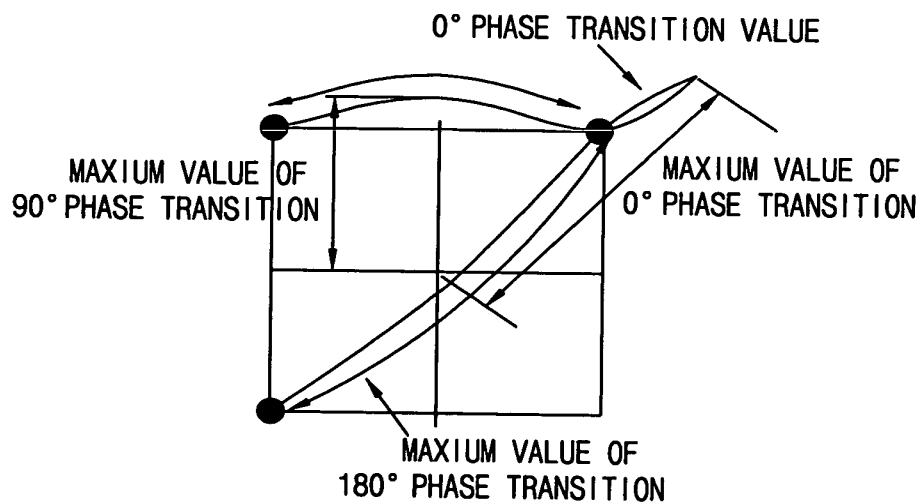


FIG. 3
CONVENTIONAL ART

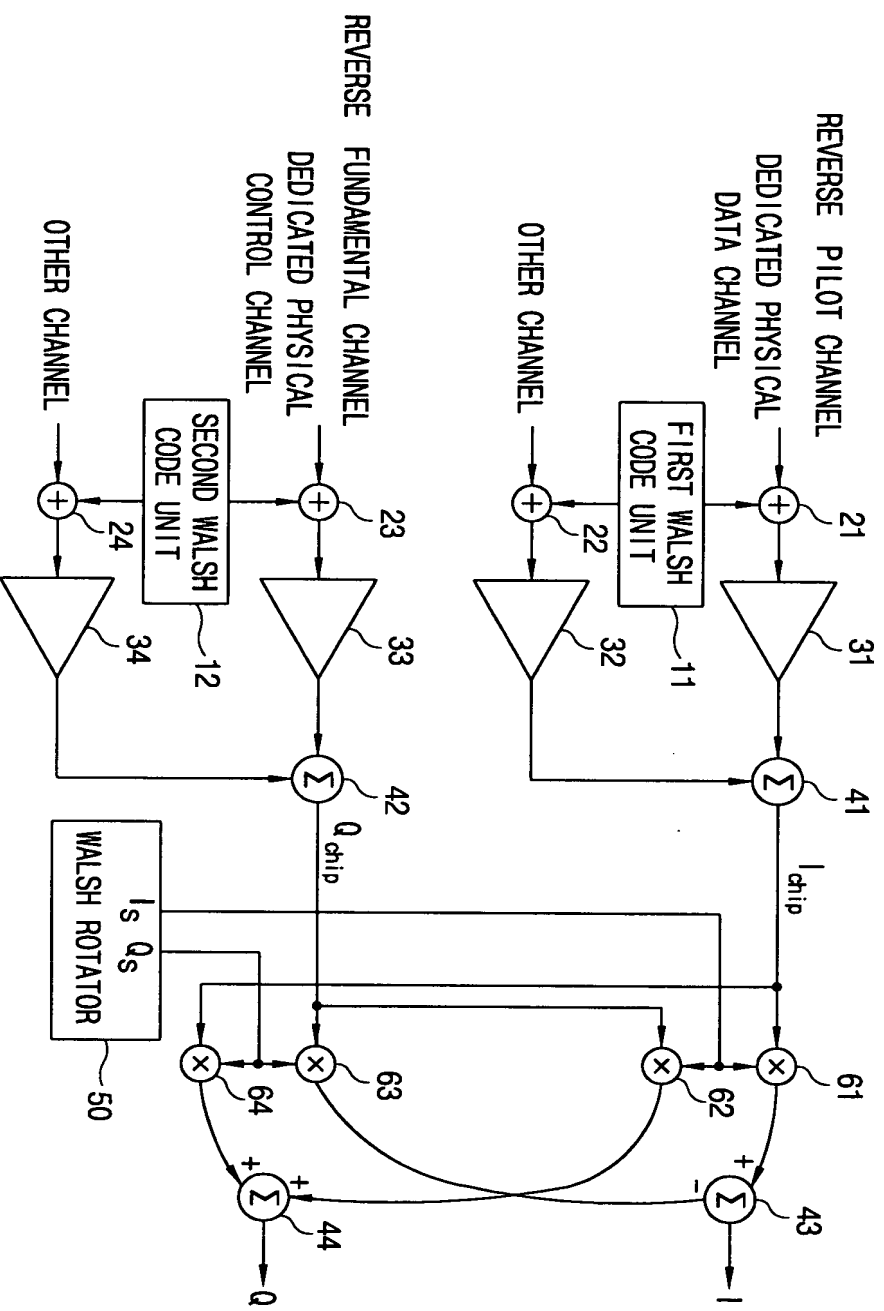


FIG. 4
CONVENTIONAL ART

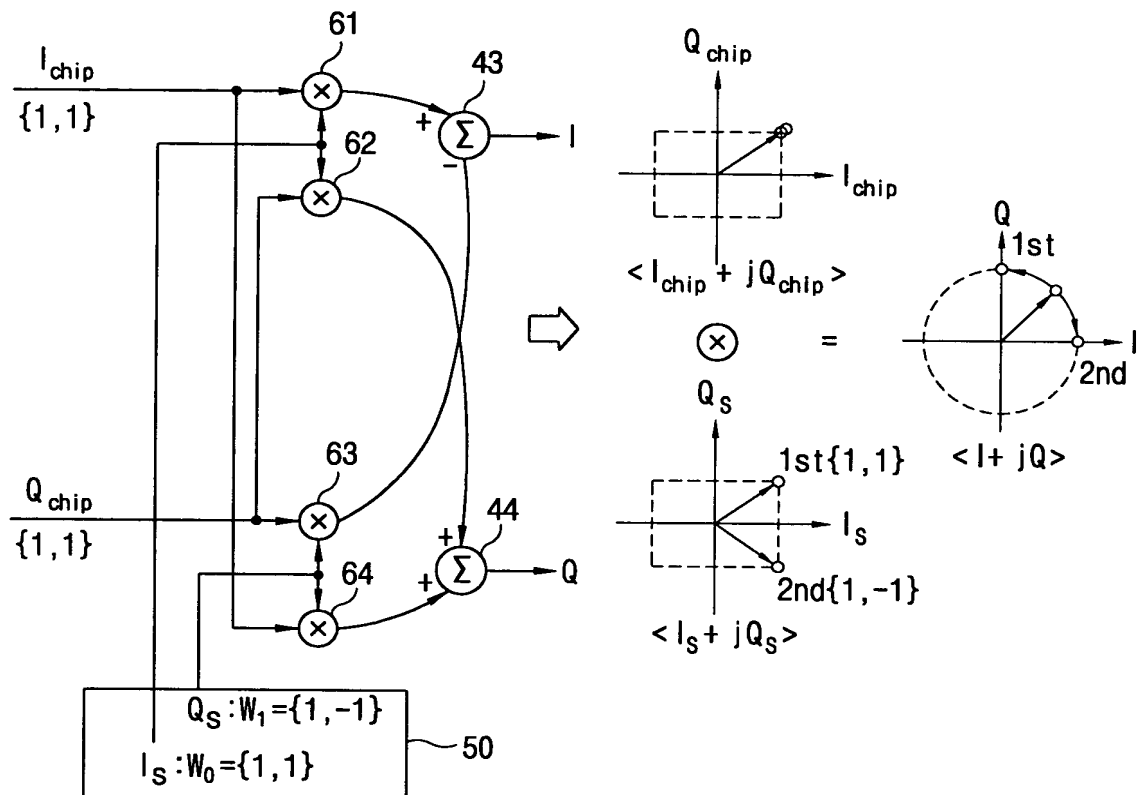


FIG. 5
CONVENTIONAL ART

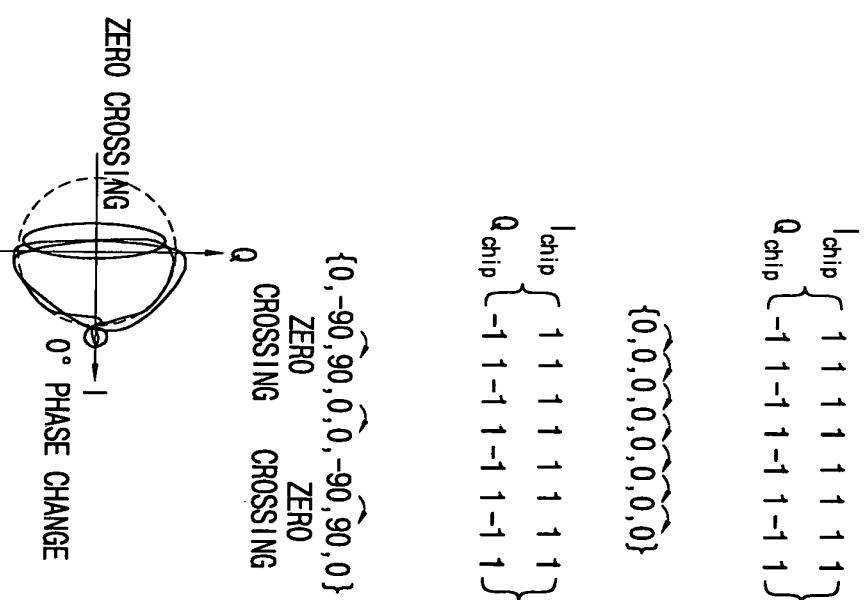
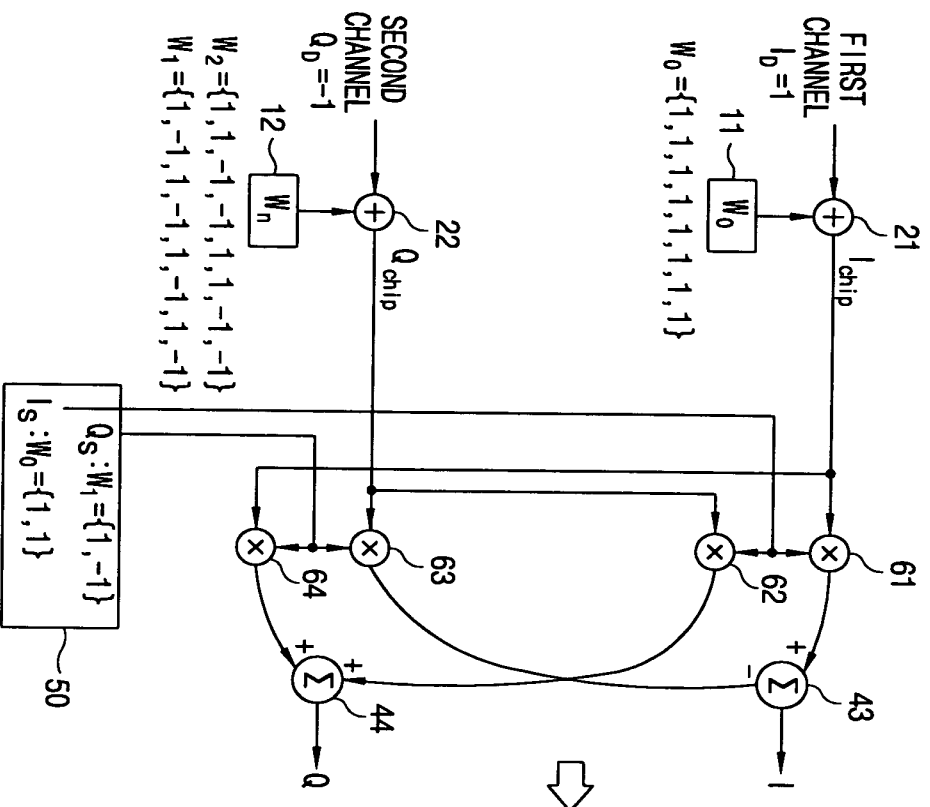


FIG. 6

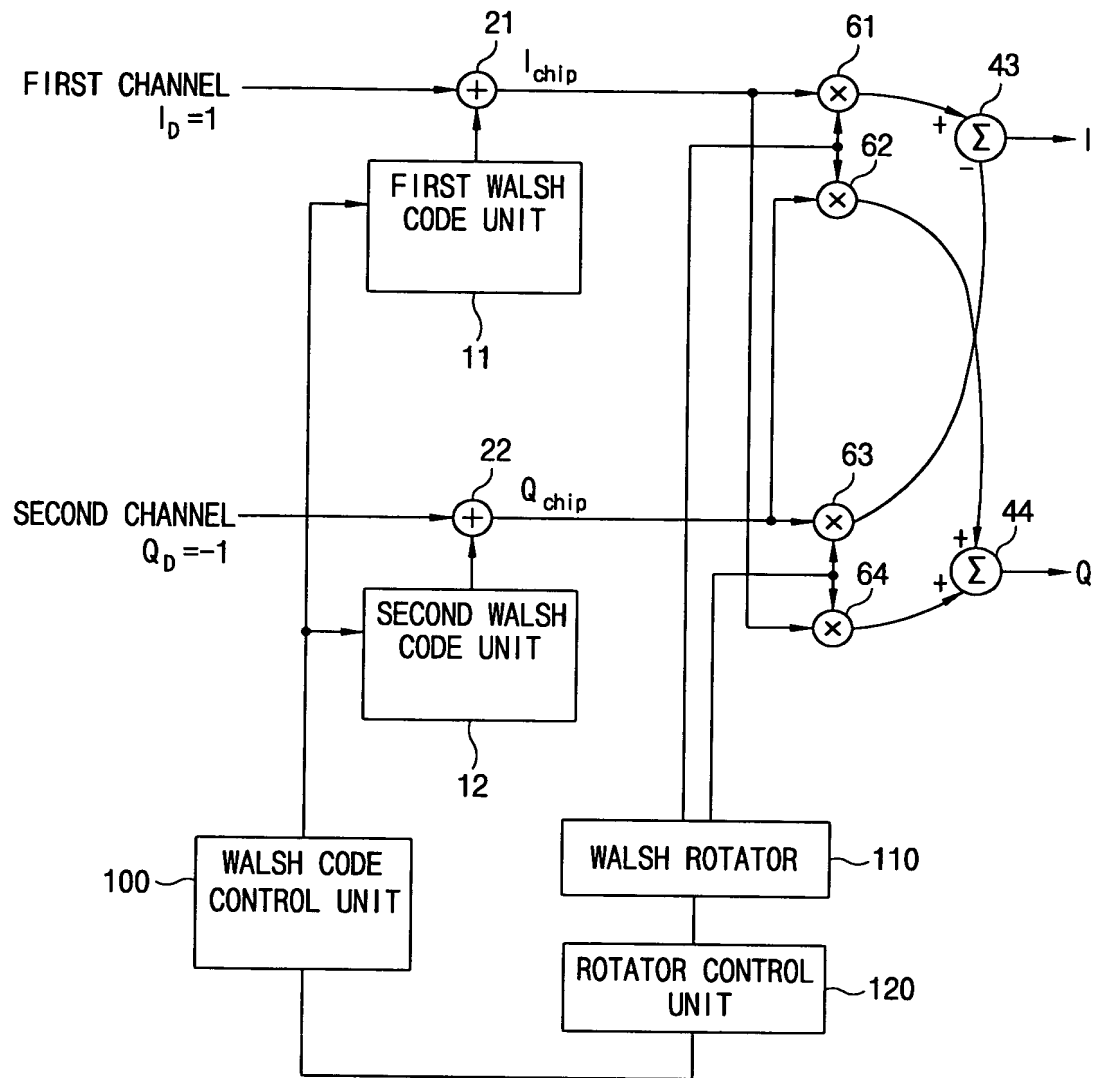
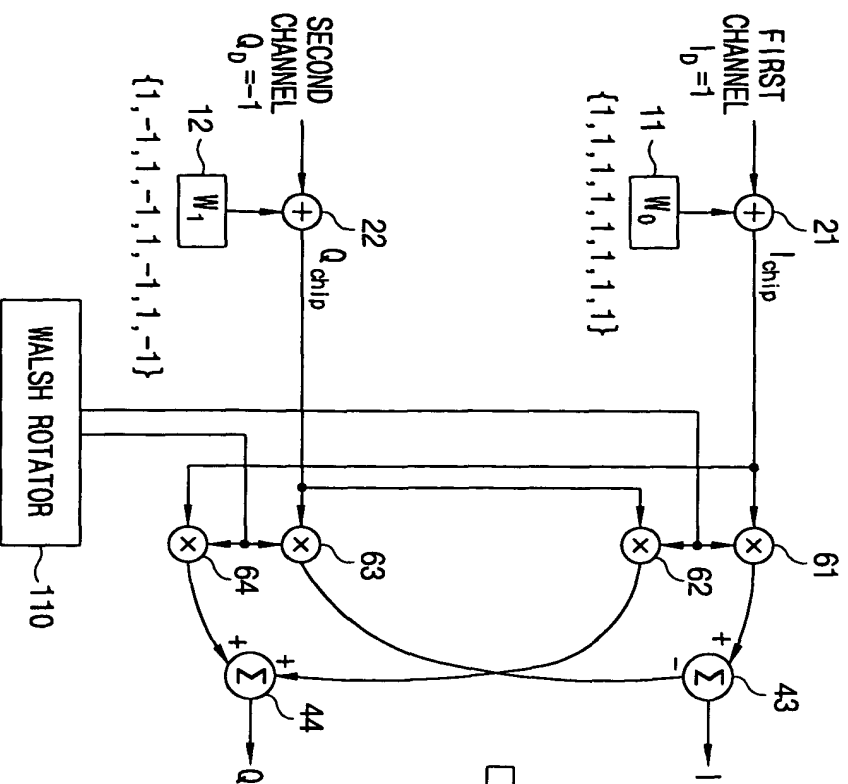


FIG. 7



WALSH SET ROTATOR

1. IN CASE OF FIRST SET, I_{chip} $\begin{Bmatrix} 1 & 1 & 1 & 1 & 1 & 1 & 1 & 1 \\ -1 & 1 & -1 & 1 & -1 & 1 & -1 & 1 \end{Bmatrix}$
 Q_{chip} $\begin{Bmatrix} 1 & 1 & 1 & 1 & 1 & 1 & 1 & 1 \\ -1 & 1 & -1 & 1 & -1 & 1 & -1 & 1 \end{Bmatrix}$

ALL 0° PHASE CHANGE

PHASE OF $I+jQ = \{0, 0, 0, 0, 0, 0, 0, 0\}$

→ PEAK POWER IS GENERATED IN EVERY TRANSITION

2. IN CASE OF SECOND SET, I_{chip} $\begin{Bmatrix} 1 & 1 & 1 & 1 & 1 & 1 & 1 & 1 \\ -1 & 1 & -1 & 1 & -1 & 1 & -1 & 1 \end{Bmatrix}$
 Q_{chip} $\begin{Bmatrix} 1 & 1 & 1 & 1 & 1 & 1 & 1 & 1 \\ -1 & 1 & -1 & 1 & -1 & 1 & -1 & 1 \end{Bmatrix}$

PHASE OF $I+jQ = \{0, 90, 0, 90, 0, 90, 0, 90\}$

→ JUST 90° PHASE TRANSITION IS GENERATED, THERE IS LITTLE POWER CHANGE

FIG. 8

